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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,093	01/07/2004	Susan M. Barnabo	PCC123	2751

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GROSSMAN, TUCKER, PERREAULT & PFLEGER, PLLC
55 SOUTH COMMERICAL STREET
MANCHESTER, NH 03101

EXAMINER	
SCHINDLER, DAVID M	
ART UNIT	**PAPER NUMBER**
2862	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/753,093	BARNABO ET AL.	
	Examiner	Art Unit	
	David M. Schindler	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-8,11-14 and 17-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-8,11-14 and 17-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the communication filed 11/16/2006.

Response to Arguments

2. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

With regard to the last full paragraph of page 5 of the Remarks, specifically the remarks directed towards Tokunaga, the Examiner respectfully disagrees and directs applicants attention to the rejection below.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 2-4, 11, 12, and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Tokunaga et al. (Tokunaga) (2002/0190874).

As to Claim 3,

Tokunaga discloses a sensor assembly including at least one magnet (6), the magnet disposed adjacent a magnetic field sensor (4), the magnetic field sensor being spaced from the magnet and including a surface in opposed facing relationship to the magnet (Figure 7), the sensor mounted to a rail of an automobile seat rail system ((Figure 7) and (Page 3, Paragraph [0039])), an activating member (14), the magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a first position relative to the sensor assembly, and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a second position relative to the sensor assembly, the first amount of magnetic flux being greater than the second amount of magnetic flux ((Page 3, Paragraph [0038]) and (Page 3, Paragraph [0042]) and (Page 4, Paragraph [0048]) and (Figure 9 / note the decreasing magnetic flux vs. position)), the activating member not extending between the

magnet and the magnetic field sensor in either of the first and the second position (Figure 7).

As to Claim 2,

Tokunaga discloses the magnetic field sensor includes a Hall sensor (Page 2, Paragraph [0035]).

As to Claim 4,

Tokunaga discloses the sensor assembly is mounted directly to the rail (Figure 7).

As to Claim 11,

Tokunaga discloses a seat rail system including a movable rail (13) and a stationary rail (12), a sensor assembly including a magnet (6) and a Hall device (4), the Hall device being spaced from the magnet and including a surface in opposed facing relationship to the magnet (Figure 9), the sensor assembly being mounted to the movable rail (Figure 9), and the Hall device providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the Hall device when the movable rail is in a first position relative to the stationary rail and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the Hall device when the movable rail is in a second position relative to the stationary rail, the first amount of flux being greater than the second

amount of magnetic flux (Page 3, Paragraph [0038]) and (Page 3, Paragraph [0042]) and (Page 4, Paragraph [0048]) and (Figure 9 / note the decreasing magnetic flux vs. position)), and the stationary rail not extending between the magnet and the Hall device in either of the first and the second position (Figure 7).

As to Claim 12,

Tokunaga discloses the sensor assembly is mounted to the movable rail (Figure 7).

As to Claim 17,

Tokunaga discloses the stationary rail includes an activating member (14), the activating member being in a first activating position relative to the sensor assembly when the movable rail is in the first position relative to the stationary rail, and the activating member being in a second activating position relative to the sensor assembly when the movable rail is in the second position relative to the stationary rail, the activating member not extending between the at least one magnet and the Hall device in either of the first and second activating positions (Page 3, Paragraph [0038]) and (Page 3, Paragraph [0042]) and (Page 4, Paragraph [0048]) and (Figure 9 / note the decreasing magnetic flux vs. position)).

As to Claim 18,

Tokunaga discloses providing a sensor assembly including a magnet (6) and a Hall device (4), the Hall device being spaced from the magnet and including a surface in opposed facing relationship to the magnet (Figure 9), mounting the sensor assembly to the first seat rail (12) (Figure 9), the Hall device providing an output, the output being a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the Hall device when the sensor assembly is in a first position relative to a second seat rail (13) and the output being a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the Hall device when the sensor assembly is in a second position relative to the second seat rail, the first amount of magnetic flux being different from the second amount of magnetic flux, and the second seat rail not extending between the magnet and the Hall device in either of the first and second positions (Page 3, Paragraph [0038]) and (Page 3, Paragraph [0042]) and (Page 4, Paragraph [0048]) and (Figure 9 / note the decreasing magnetic flux vs. position)), and determining a position of the seat in response to the output ((Page 3, Paragraph [0042]) and (Figure 9)).

As to Claim 19,

Tokunaga discloses mounting an activating member (14) to the second seat rail, the Hall device providing a first output when the activating member is in a first position relative to the sensor assembly and a second output when the activating member is in a second position relative to the sensor assembly, the activating member not extending between the at least one magnet and the Hall device in either of the first and second position of the activating member ((Figures 7 and 9) and (Page 3, Paragraphs [0042] and [0043])).

5. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Goto et al. (Goto) (6,140,727).

Goto discloses a sensor including a magnet (5) having a C-shaped cross-section ((Figure 4) and (Column 7, Lines 31-35)), the magnet disposed adjacent a magnetic field sensor ((1) in combination with (2)), the magnetic field sensor being spaced from the magnet and including a surface in facing opposed relationship to the magnet ((Figure 4) and (see Note below)), and an activating member (10), the magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a first position relative to the sensor assembly (Column 6, Lines 3-

46)), and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a second position relative to the sensor assembly (Column 6, Lines 3-46), the first amount of magnetic flux being greater than the second amount of magnetic flux (Column 6, Lines 3-46), the activating member not extending between the magnet and the magnetic field sensor in either of the first and second position (Figure 4) (Column 7, Lines 31-41).

(Note: The surface of the magnetic field sensor in facing opposed relationship to the magnetic is being interpreted to be the far left surface of magnetic element (1) which faces the north pole tip designated by (51) in Figure 4 (i.e. the facing direction is from the far left surface of the magnetic element (1) that extends toward the left of the page.).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

> the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 5, 6, 8, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokunaga et al. (Tokunaga) (2002/0190874) in view of Becker et al. (Becker) (6,095,555).

As to Claim 5,

Tokunaga discloses as explained above.

Tokunaga does not disclose the sensor assembly is mounted to the rail via a bracket.

Becker discloses the sensor assembly (the combination of (70) and (72)) is mounted to the rail ((32) / T-shaped guide member) via a bracket (34) ((Figure 2 and (Column 2, Lines 48-53) and (Column 3, Lines 41-46)).

It would have been obvious to a person of ordinary skill in

the art to modify Tokunaga to include the sensor assembly is mounted to the rail via a bracket as taught by Becker in order to provide a secure positioning means to securely position the sensor with respect to the rail.

As to Claim 6,

Tokunaga discloses a sensor assembly including at least one magnet (6), the magnet disposed adjacent a magnetic field sensor (4), the magnetic field sensor being spaced from the magnet and including a surface in facing opposed relationship to the magnet (Figure 7), an activating member (14) mounted on a rail of an automobile seat system, the magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a first position relative to the sensor assembly, and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a second position relative to the sensor assembly, the first amount of magnetic flux being greater than the second amount of magnetic flux ((Page 3, Paragraph [0038]) and (Page 3, Paragraph [0042]) and (Page 4, Paragraph [0048]) and (Figure 9 / note the decreasing magnetic flux vs. position)), the activating member not

extending between the magnet and the magnetic field sensor in either of the first and the second position (Figure 7).

Tokunaga does not disclose the activating member being a rail of an automobile seat rail system.

Becker discloses the activating member (48) being a rail of an automobile seat rail system (Figures 2-5).

It would have been obvious to a person of ordinary skill in the art to modify Tokunaga to include the activating member being a rail of an automobile seat rail system as taught by Becker in order to reduce the number of components used and to therefore reduce the device cost.

As to Claim 8,

Tokunaga discloses the sensor assembly is mounted on a first rail of an automobile seat rail system (Figure 7).

Tokunaga does not disclose the activating member is a second rail of the automobile seat rail system.

Becker discloses the activating member (48) is a second rail of the automobile seat rail system (Figures 2-5).

It would have been obvious to a person of ordinary skill in the art to modify Tokunaga to include the activating member is a second rail of the automobile seat rail system as taught by Becker in order to reduce the number of components used and to therefore reduce the device cost.

As to Claim 13,

Tokunaga does not disclose the sensor assembly is mounted to the stationary rail.

Becker discloses the sensor assembly is mounted to the stationary rail (Figure 2).

It would have been obvious to a person of ordinary skill in the art to modify Tokunaga to include the sensor assembly is mounted to the stationary rail as taught by Becker in order to provide for sensing of a position of a vehicle seat (see Title). Furthermore, the Examiner notes that it would have been obvious to a person of ordinary skill in the art to rearrange the rail that the sensor assembly and shield plate (14) of Tokunaga are located on in order to provide for seat position sensing (MPEP 2144.04).

As to Claim 14,

Tokunaga does not disclose the sensor assembly is mounted to one of the movable rail and the stationary rail via a mounting bracket.

Becker discloses the sensor assembly (the combination of (70) and (72)) is mounted to the stationary rail ((32) / T-shaped guide member) via a bracket (34) ((Figure 2 and (Column 2, Lines 48-53) and (Column 3, Lines 41-46)).

It would have been obvious to a person of ordinary skill in

the art to modify Tokunaga to include the sensor assembly is mounted to the stationary rail via a bracket as taught by Becker in order to provide for sensing a position of a vehicle seat (title) and to provide a secure positioning means to securely position the sensor with respect to the movable rail. Furthermore, the Examiner notes that it would have been obvious to a person of ordinary skill in the art to rearrange the rail that the sensor assembly and shield plate (14) of Tokunaga are located on in order to provide for seat position sensing (MPEP 2144.04).

9. Claims 2, 3, 5, 6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker et al. (Becker) (6,095,555) in view of Tokunaga et al. (Tokunaga) (2002/0190874).

As to Claim 3,

Becker discloses a sensor assembly including a magnet (72), the magnet disposed adjacent a magnetic field sensor ((70) / hall), the magnetic field sensor being spaced from the magnet (Figures 2-5), the sensor assembly mounted to a rail of an automobile seat rail system (Figures 2-5), and an activating member (48), the magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted

perpendicularly to the surface of the magnetic field sensor when the activating member is in a first position relative to the sensor assembly and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a second position relative to the sensor assembly, the first amount of magnetic flux being greater than the second amount of magnetic flux ((Column 4, Lines 12-19) and (Column 4, Lines 45-54)), and the activating member not extending between the magnet and the magnetic field sensor in either of the first and the second position ((Figures 2-5) and (Column 3, Lines 65-67) and (Column 4, Lines 1-54)).

Becker does not disclose the magnetic field sensor including a surface in opposed facing relationship to the magnet in combination with the magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a first position relative to the sensor assembly and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a second position relative to the sensor assembly.

Tokunaga discloses the magnetic field sensor (4)including a surface in opposed facing relationship to the magnet (6) in combination with the magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member (14) is in a first position relative to the sensor assembly and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a second position relative to the sensor assembly ((Page 3, Paragraph [0038]) and (Page 3, Paragraph [0042]) and (Page 4, Paragraph [0048]) and (Figure 9 / note the decreasing magnetic flux vs. position)).

It would have been obvious to a person of ordinary skill in the art to modify Becker to include the magnetic field sensor including a surface in opposed facing relationship to the magnet in combination with the magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a first position relative to the sensor assembly and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a

second position relative to the sensor assembly as taught by Tokunaga in order to provide a seat position sensor which can ensure a high yield rate (Page 1, Paragraph [0011]).

As to Claim 2,

Becker discloses the magnetic field sensor includes a Hall sensor (Abstract).

As to Claim 5,

Becker discloses the sensor assembly is mounted to the rail via a bracket ((Figure 2 and (Column 2, Lines 48-53) and (Column 3, Lines 41-46)).

As to Claim 6,

Becker discloses a sensor assembly including a magnet (72), the magnet disposed adjacent a magnetic field sensor ((70) / hall), the magnetic field sensor being spaced from the magnet (Figures 2-5), and an activating member (48), the activating member being a rail of an automobile seat rail system (Figures 2-5), the magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a first position relative to the sensor assembly and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a

second position relative to the sensor assembly, the first amount of magnetic flux being greater than the second amount of magnetic flux ((Column 4, Lines 12-19) and (Column 4, Lines 45-54)), and the activating member not extending between the magnet and the magnetic field sensor in either of the first and the second position ((Figures 2-5) and (Column 3, Lines 65-67) and (Column 4, Lines 1-54)).

Becker does not disclose the magnetic field sensor including a surface in facing opposed relationship to the magnet in combination with the magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a first position relative to the sensor assembly and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a second position relative to the sensor assembly.

Tokunaga discloses the magnetic field sensor (4)including a surface in facing opposed relationship to the magnet (6) in combination with the magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member (14) is in a first position relative to

the sensor assembly and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a second position relative to the sensor assembly ((Page 3, Paragraph [0038]) and (Page 3, Paragraph [0042]) and (Page 4, Paragraph [0048]) and (Figure 9 / note the decreasing magnetic flux vs. position)).

It would have been obvious to a person of ordinary skill in the art to modify Becker to include the magnetic field sensor including a surface in facing opposed relationship to the magnet in combination with the magnetic field sensor providing a first output corresponding to a first amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a first position relative to the sensor assembly and a second output corresponding to a second amount of magnetic flux imparted perpendicularly to the surface of the magnetic field sensor when the activating member is in a second position relative to the sensor assembly as taught by Tokunaga in order to provide a seat position sensor which can ensure a high yield rate (Page 1, Paragraph [0011]).

As to Claim 8,

Becker discloses the sensor assembly is mounted on a first rail of an automobile seat rail system and the activating member

is a second rail of the automobile seat rail system (Figures 2-5).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Schindler whose telephone number is (571) 272-2112. The

examiner can normally be reached on Monday-Friday (8:00AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David M. Schindler
Examiner
Art Unit 2862

DMS

EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800